Fig.1

(related art)

0	2	4	6
1	3	5	7
8	10	12	14
9	11	13	15

FIG.2

(related art)

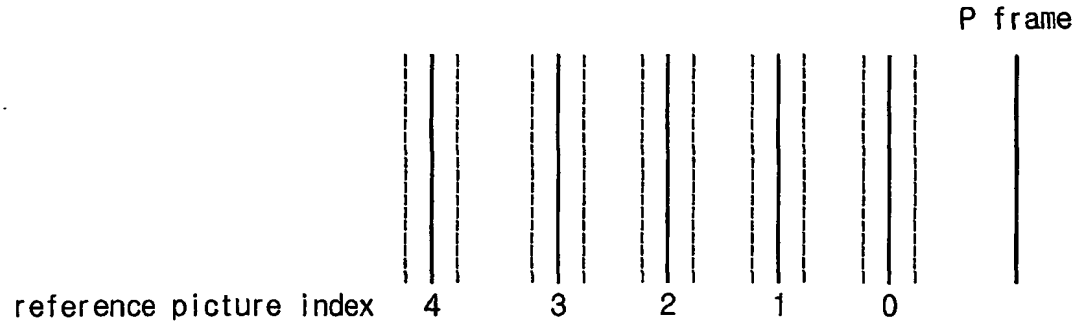


FIG. 3

(related art)

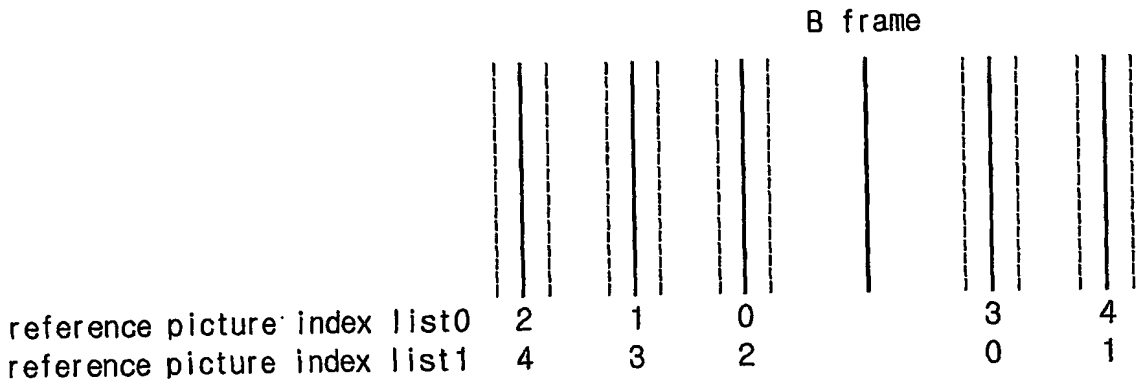


FIG. 4

(related art)

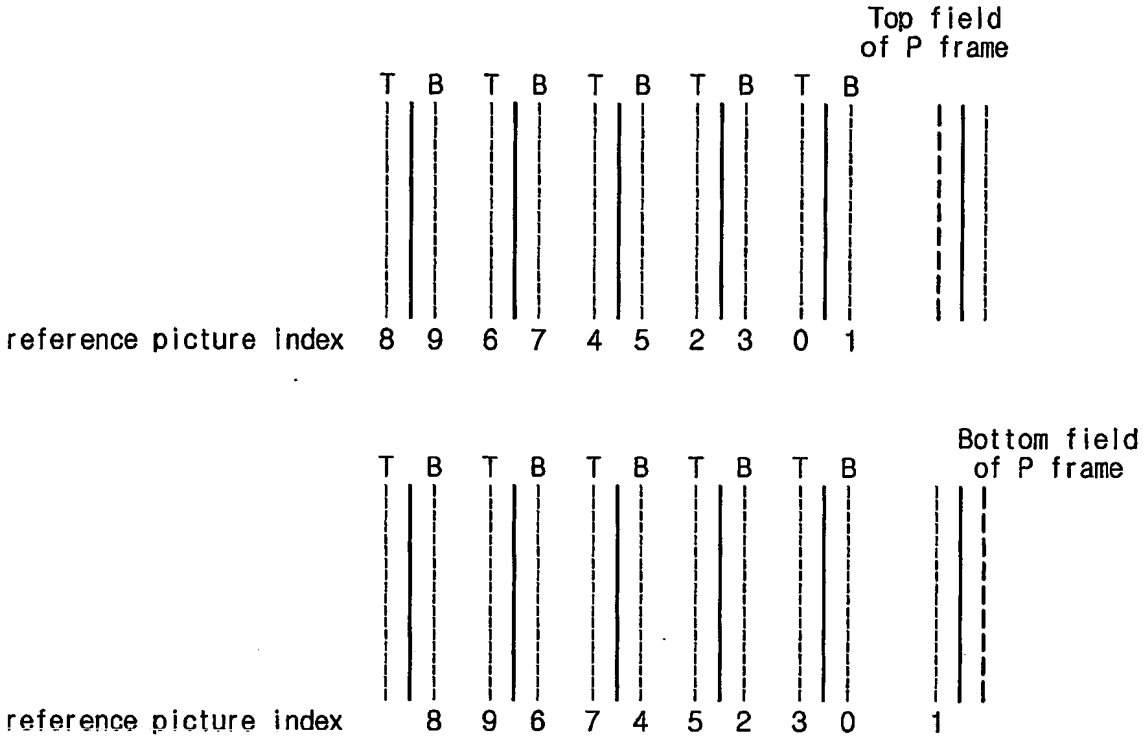


FIG. 5

(related art)

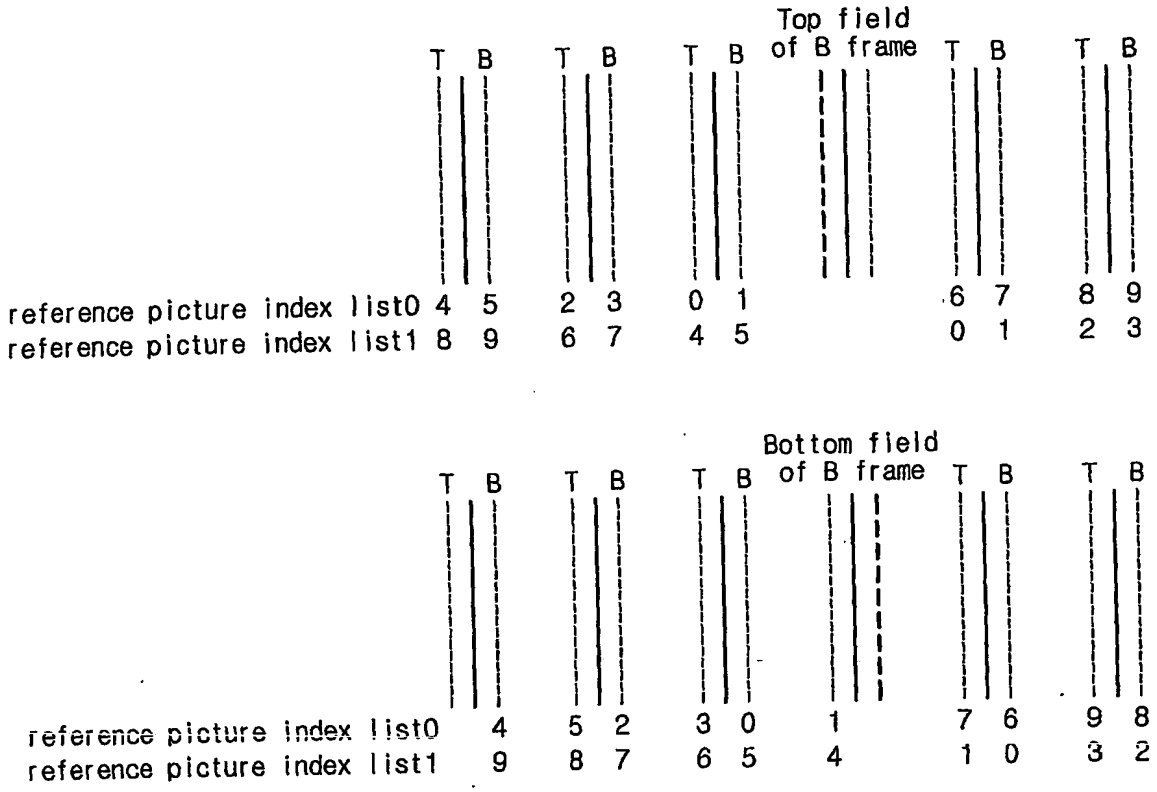


FIG. 6
(related art)

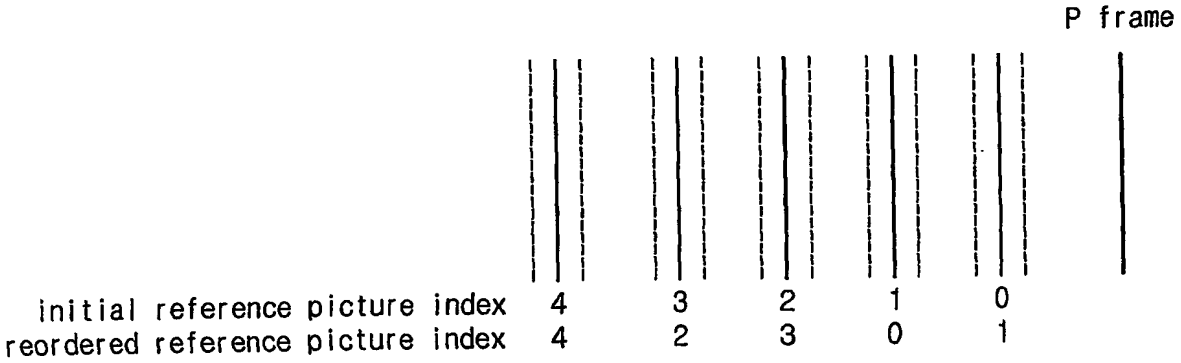


FIG. 7

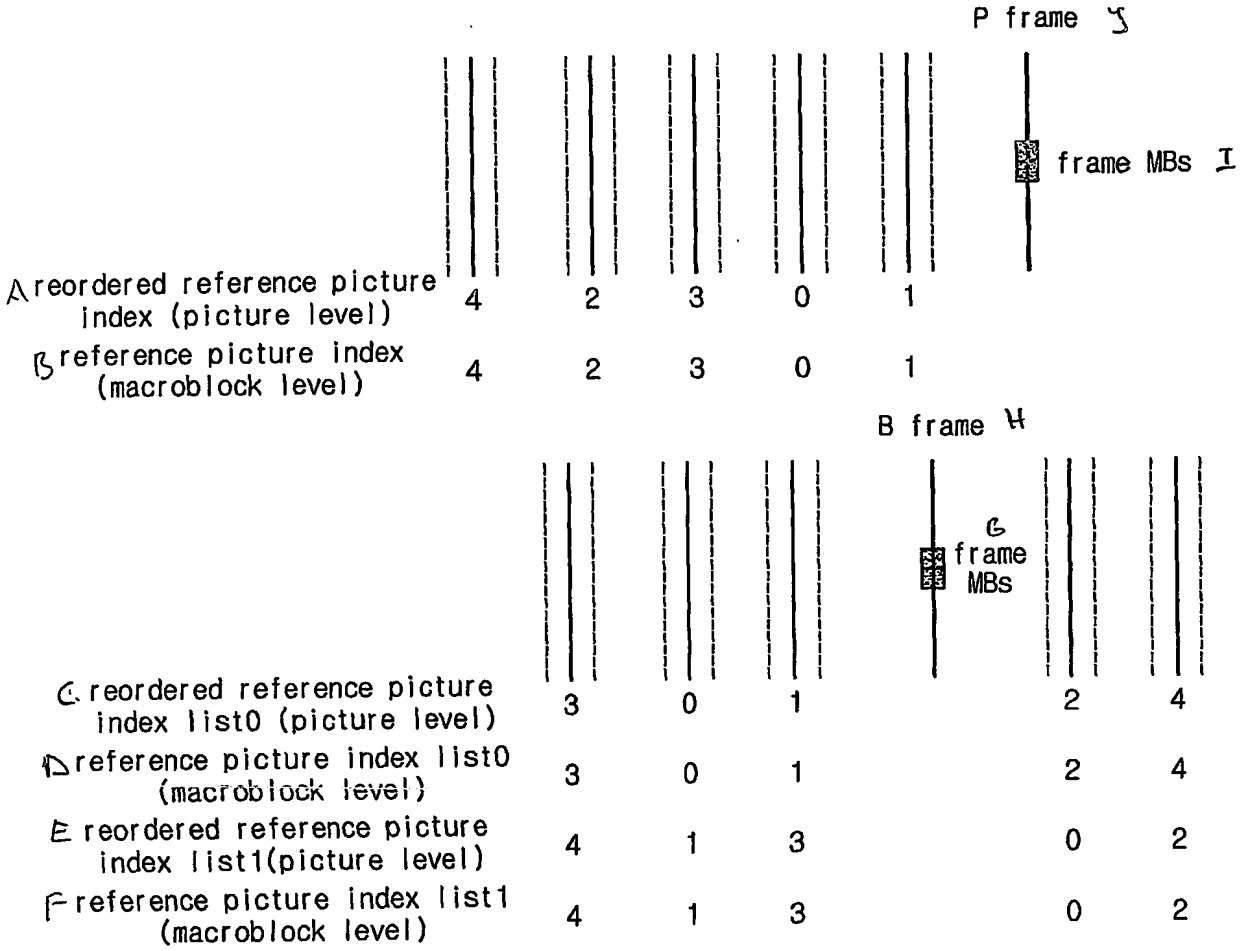

P frame
frame MBs
A reordered reference picture index (picture level)
B reference picture index (macroblock level)
4 2 3 0 1
4 2 3 0 1
B frame
G frame MBs
C reordered reference picture index list0 (picture level)
D reference picture index list0 (macroblock level)
E reordered reference picture index list1(picture level)
F reference picture index list1 (macroblock level)
3 0 1 2 4
3 0 1 2 4
4 1 3 0 2
4 1 3 0 2

FIG. 8

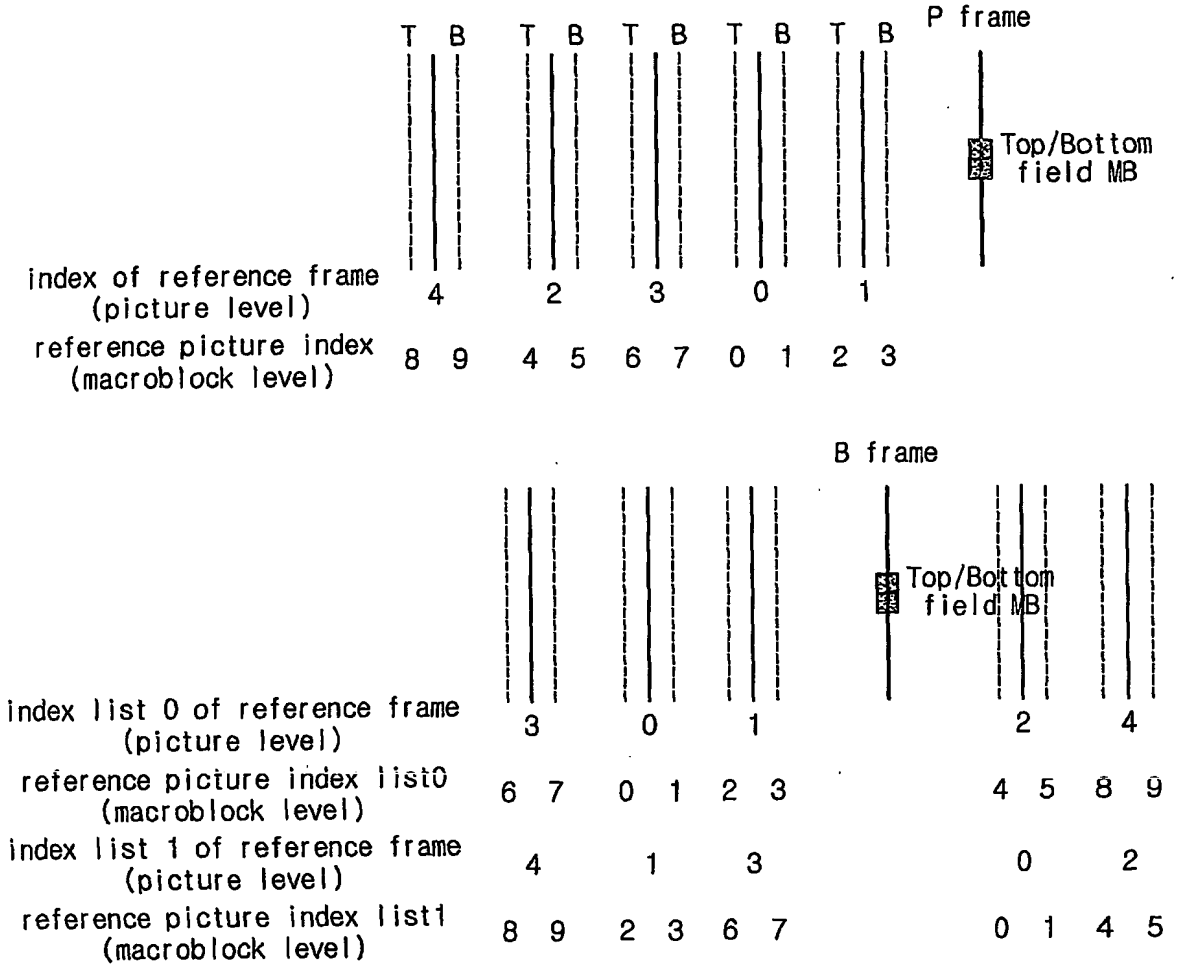

P frame
T B T B T B T B T B
Top/Bottom field MB
index of reference frame (picture level)
4 2 3 0 1
reference picture index (macroblock level)
8 9 4 5 6 7 0 1 2 3
B frame
Top/Bottom field MB
index list 0 of reference frame (picture level)
3 0 1 2 4
reference picture index list0 (macroblock level)
6 7 0 1 2 3 4 5 8 9
index list 1 of reference frame (picture level)
4 1 3 0 2
reference picture index list1 (macroblock level)
8 9 2 3 6 7 0 1 4 5

FIG. 9

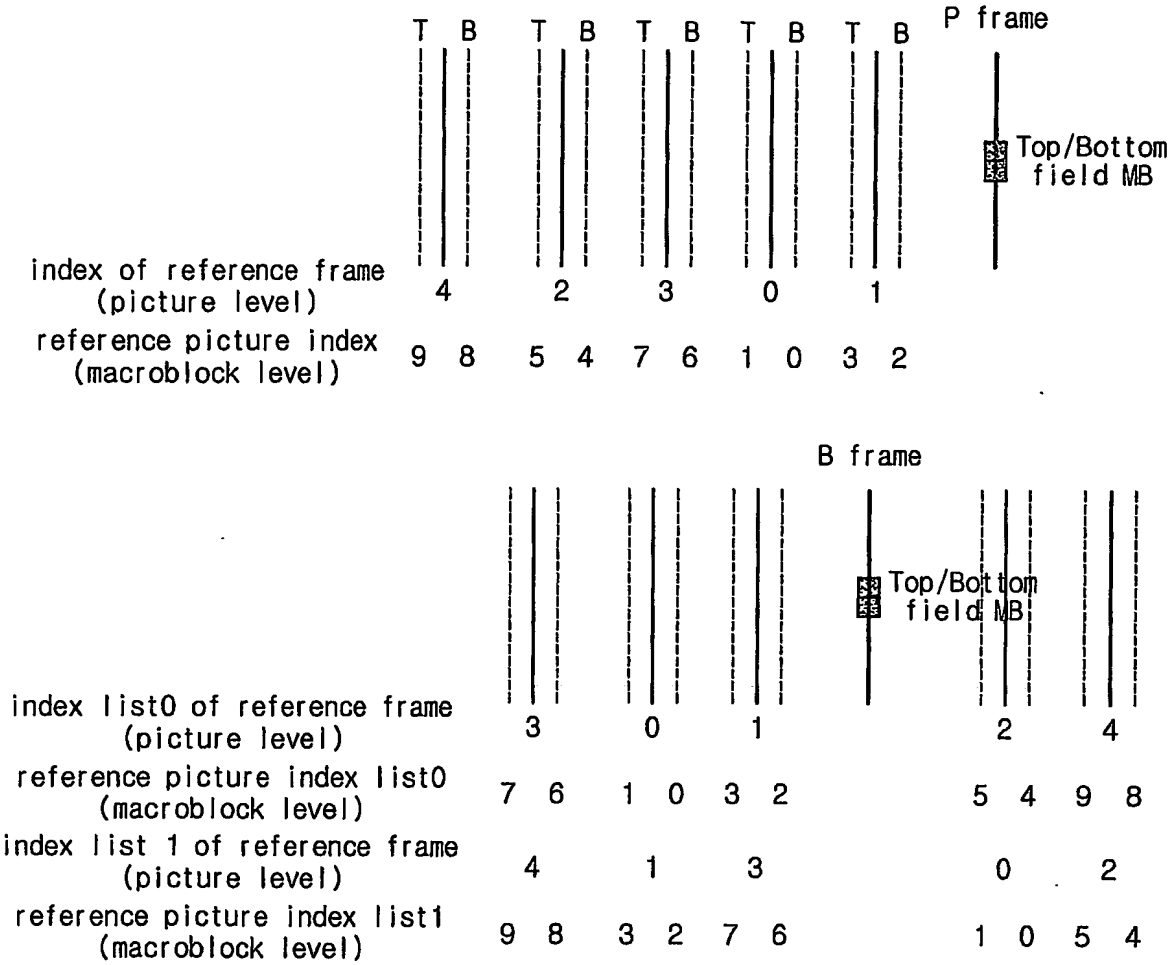
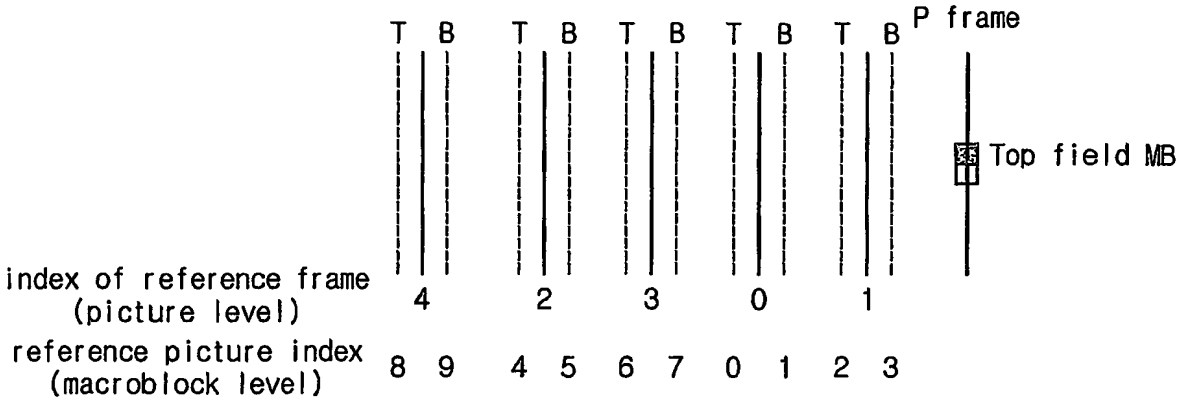

T B T B T B T B T B
P frame
Top/Bottom field MB
index of reference frame (picture level)
4 2 3 0 1
reference picture index (macroblock level)
9 8 5 4 7 6 1 0 3 2
B frame
Top/Bottom field MB
index list0 of reference frame (picture level)
3 0 1 2 4
reference picture index list0 (macroblock level)
7 6 1 0 3 2 5 4 9 8
index list 1 of reference frame (picture level)
4 1 3 0 2
reference picture index list1 (macroblock level)
9 8 3 2 7 6 1 0 5 4

FIG. 10


T B T B T B T B T B
P frame
Top field MB
index of reference frame (picture level)
4 2 3 0 1
reference picture index (macroblock level)
8 9 4 5 6 7 0 1 2 3

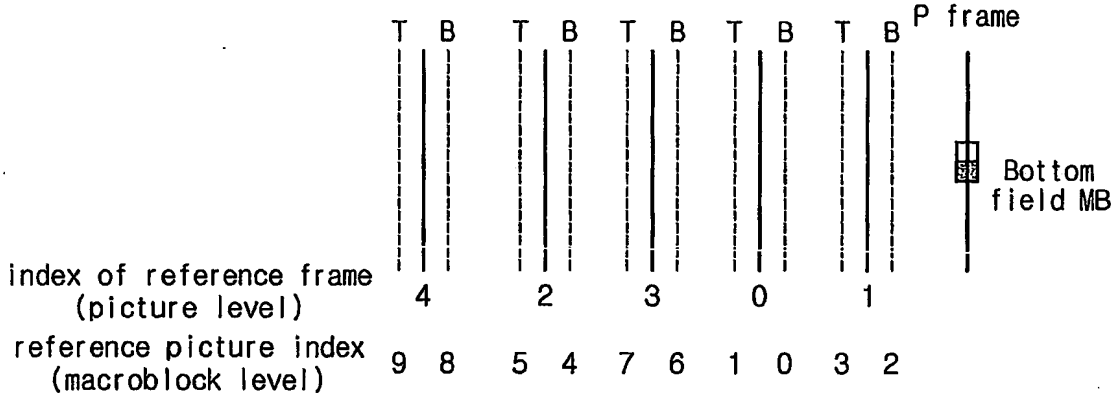

T B T B T B T B T B
P frame
Bottom field MB
index of reference frame (picture level)
4 2 3 0 1
reference picture index (macroblock level)
9 8 5 4 7 6 1 0 3 2

FIG. 11

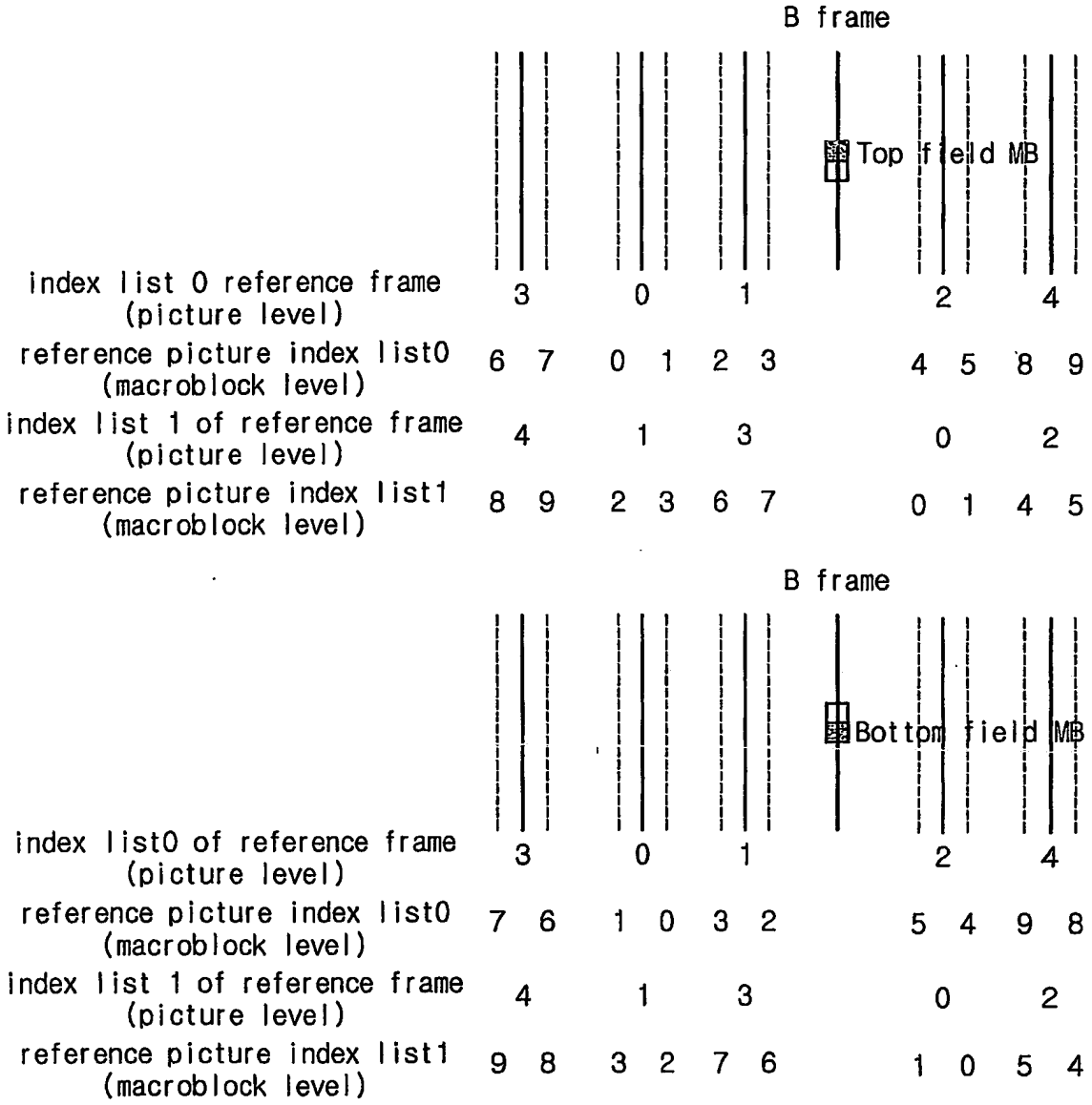
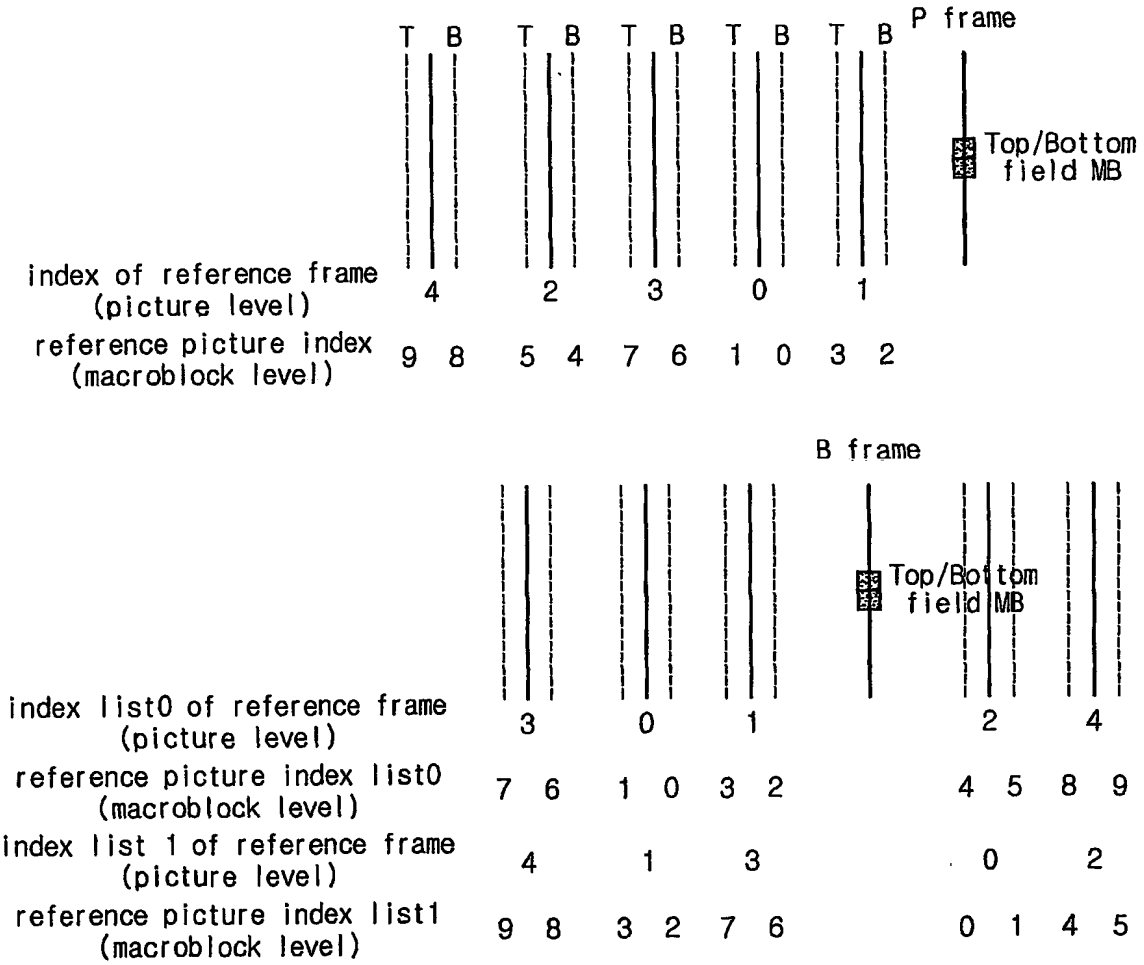

B frame
Top field MB
index list 0 reference frame (picture level)
3 0 1 2 4
reference picture index list0 (macroblock level)
6 7 0 1 2 3 4 5 8 9
index list 1 of reference frame (picture level)
4 1 3 0 2
reference picture index list1 (macroblock level)
8 9 2 3 6 7 0 1 4 5
B frame
Bottom field MB
index list0 of reference frame (picture level)
3 0 1 2 4
reference picture index list0 (macroblock level)
7 6 1 0 3 2 5 4 9 8
index list 1 of reference frame (picture level)
4 1 3 0 2
reference picture index list1 (macroblock level)
9 8 3 2 7 6 1 0 5 4

FIG. 12


T B T B T B T B T B
P frame
Top/Bottom field MB
index of reference frame (picture level)
4 2 3 0 1
reference picture index (macroblock level)
9 8 5 4 7 6 1 0 3 2
B frame
Top/Bottom field MB
index list0 of reference frame (picture level)
3 0 1 2 4
reference picture index list0 (macroblock level)
7 6 1 0 3 2 4 5 8 9
index list 1 of reference frame (picture level)
4 1 3 0 2
reference picture index list1 (macroblock level)
9 8 3 2 7 6 0 1 4 5